2018

BIOTECHNOLOGY

[Honours]

PAPER —VI

Full Marks : 90

Time : 4 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[NEW SYLLABUS]

GROUP — A

Answer any two questions :　　　15 × 2

1. (*a*) State the applications of bioinformatics.

   (*b*) Mention the use of BLAST in DNA sequence analysis.

(c) What is Pub Med and Swiss Port ?   4 + 6 + 5

2. (a) What is linear regression ? How do you compute simple linear regression.

(b) Find out standard deviation of the following body weight of 10 persons

$$55, 60, 62, 58, 57, 61, 59, 60\ 61, 62$$
$$(2 + 6) +7$$

3. (a) Define genomics and proteomics.

(b) What is IPR ? Mention the components of a IPR framework.

(c) Classify and explain major data bases in bioinformatics giving example of each database.   4 + 4 + 7

4. (a) Write a note on SCP and mention the demerits of using SCP.

(b) Give an outline of the mass production of Rhizobium.

(c) Briefly mention the steps of cheese production.
4 + 5 + 6

GROUP — B

Answer any **five** questions : 8×5

5. Explain : 4×2

   (a) Scope of functional genomics

   (b) Application of transcriptomics.

6. (a) Briefly describe the methodologies used to understand the protein-protein interaction.

   (b) What is structural proteomics. $6 + 2$

7. (a) What is KLA ?

   (b) Write the kinetics of substrate utilization during batch fermentation. $3 + 5$

8. (a) What are the indicator microbos present in pharmaceutical products.

   (b) How microbos free environment is established in pharmaceutical industry.

   (c) Write the concept of good manufacturing practice of pharmaceutical products. $2 + 4 + 2$

9. How a patent can be transferred by the patentee to another person ?   8

10. What are the essential features of trade mark ? Explain different types of trade mark.   3 + 5

11. (a) What is Poision distribution ? State its simple properties.

   (b) How can you perform a random sampling using random number table.   (2 + 3) + 3

12. (a) What do you mean by primary and secondary data ?

   (b) What is standard deviation ? State its importance.   3 + (2 + 3)

GROUP – C

Answer any **five** questions :   4 × 5

13. What is homology modeling.   4

14. What is data mining ? What is KDD ?   2 + 2

15. What is consensus sequence ? Define the consensus map.   2 + 2

16. Compare among mean, median and mode.   4

17. What is correlation-coefficient ? Write its importance.   2 + 2

18. Write the scope of functional genomics.   4

19. FASTA tool is used for global alignment. Justify the statement.   4

20. Explain the salient features of Geographical Indications of Good Act 1999.   4

21. Why mushroom is considered as a nutricious food ?   4

22. State the significance of cell-immobilization technique in enzyme production.   4

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